

# R-Rated

## Medium voltage fuses for motor circuit protection



### Features and benefits:

- Current-limiting R-Rated fuses will safely interrupt all currents between their minimum and maximum interrupting ratings and will melt in a range of 15 to 35 seconds at a value of 100 times the “R” number per ANSI C37.46.
- R-Rated fuses are physically dimensioned for easy installation in existing hardware.
- Available in standard, AMPGARD™ Hookeye and hermetically sealed, and bolt-on mounting styles to meet application needs.
- 2.4kV and 4.8kV AMPGARD hermetically sealed constructions are suitable for Class I, Group D, Div. 2 hazardous locations.
- Open fuse indicator on all mounting styles speeds troubleshooting.
- Classified as backup fuses for current-limiting protection of medium voltage motor controllers (short-circuit performance only).
- These fuses are in a self-contained, non-venting package for installation indoors or outdoors in an enclosure.

### Typical applications:

- Medium voltage motors and controllers

### Description:

- Indoor/enclosure, R-Rated medium voltage, current-limiting fuses for motor circuit protection.

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## 2.4kV R-Rated fuses

### Catalog symbols:

| Code-(amps)R | Construction                                      |
|--------------|---------------------------------------------------|
| 2CLS-25      | Standard (25A only)                               |
| 2ACLS-25     | AMPGARD hookeye (25A only)                        |
| JCK-_R       | Standard (2R-24R)                                 |
| JCK-A-_R     | AMPGARD hookeye* (2R-24R)                         |
| 2HCLS-_R     | Hermetically sealed AMPGARD hookeye* (25A/2R-24R) |
| 2BCLS-_R     | Bolt-on (25A/2R-24R)                              |

\* For use in 400 amp AMPGARD motor starters.

### Ratings:

- Volts
  - 2.4kV (nominal)
  - 2.54kV (max design)
- Amps 25-450A
- Interrupting ratings
  - 50kA Sym
  - 80kA Asym

### Agency information:

- UL® Recognized: Guide #MSSS2, File #E96676

### Recommended fuse holders for standard constructions:

| Amp range                 | Description                            | Cat. No.   |
|---------------------------|----------------------------------------|------------|
| <b>Fuseclips</b>          |                                        |            |
| 25-230A                   | 3" enclosed fuseclip*                  | A3354730   |
| 25-450A                   | 3" open fuseclip                       | 1A0065     |
|                           | 3" spring loaded open fuseclip         | 9078A67G04 |
| <b>Fuse holders</b>       |                                        |            |
| 25-230A<br>Single barrel  | Non-disconnect holder, porcelain       | 2CLE-PNM-D |
|                           | Non-disconnect holder, glass polyester | 2CLE-GNM-D |
|                           | Disconnect holder, porcelain           | 2CLE-PDM-D |
|                           | Disconnect holder, glass polyester     | 2CLE-GDM-E |
| 390-450A<br>Double barrel | Non-disconnect holder, porcelain       | 2CLE-PNM-E |
|                           | Non-disconnect holder, glass polyester | 2CLE-GNM-E |
|                           | Disconnect holder, glass polyester     | 2CLE-GDM-E |

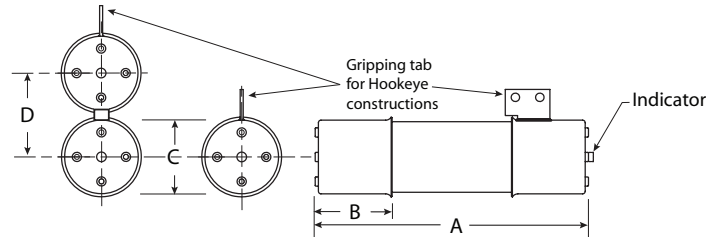
\* Single barrel only, not sold in pairs.

### Dimensions - in [mm]

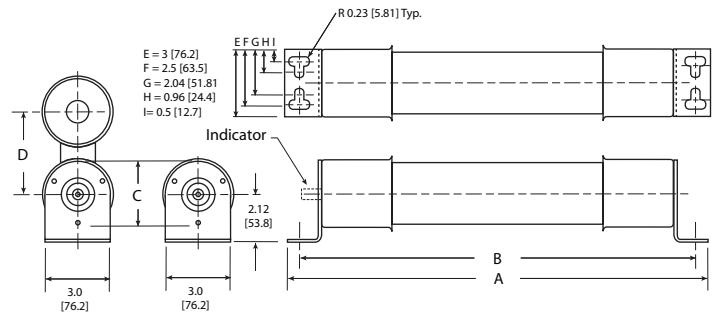
| Construction     | Amp range | Dimension  |            |        |          |
|------------------|-----------|------------|------------|--------|----------|
|                  |           | A          | B          | C      | D        |
| Standard - short | 25-230A   | 10.8 (274) | 3 (76)     | 3 (76) | —        |
|                  | 390-450A  | 10.8 (274) | 3 (76)     | 3 (76) | 3.3 (84) |
| AMPGARD Hookeye* | 70-230A   | 10.8 (274) | 3 (76)     | 3 (76) | —        |
|                  | 390-450A  | 10.8 (274) | 3 (76)     | 3 (76) | 3.3 (84) |
| Bolt-on          | 25-230A   | 19.2 (488) | 17.9 (455) | 3 (76) | —        |
|                  | 390-450A  | 19.2 (488) | 17.9 (455) | 3 (76) | 3.3 (84) |

\* Includes hermetically sealed versions.

### Standard and AMPGARD hookeye



### Bolt-on



## 2.4kV R-Rated fuse catalog numbers

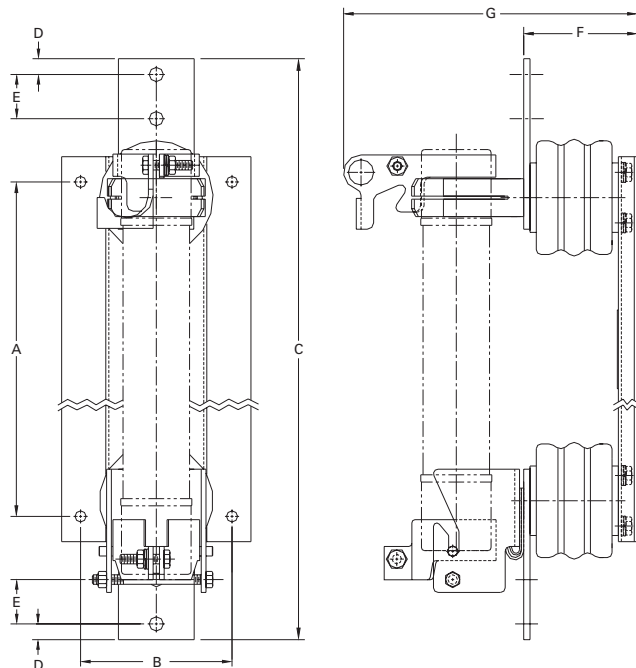
| Amp rating | "R"<br>Designation | Mounting style (minimum interrupting rating in amps) |                  |                     |                  | Number<br>of barrels |
|------------|--------------------|------------------------------------------------------|------------------|---------------------|------------------|----------------------|
|            |                    | Standard                                             | AMPGARD Hookeye  |                     | Bolt-on          |                      |
|            |                    |                                                      | Regular          | Hermetically sealed |                  |                      |
| 25         | —                  | 2CLS-25* (90)                                        | 2ACLS-25* (90)   | 2HCLS-25* (90)      | 2BCLS-25* (90)   | 1                    |
| 70         | 2R                 | JCK-2R (165)                                         | JCK-A-2R (165)   | 2HCLS-2R (170)      | 2BCLS-2R (170)   | 1                    |
| 100        | 3R                 | JCK-3R (220)                                         | JCK-A-3R (220)   | 2HCLS-3R (245)      | 2BCLS-3R (245)   | 1                    |
| 130        | 4R                 | JCK-4R (320)                                         | JCK-A-4R (320)   | 2HCLS-4R (340)      | 2BCLS-4R (340)   | 1                    |
| 150        | 5R                 | JCK-5R (410)                                         | JCK-A-5R (410)   | 2HCLS-5R (430)      | 2BCLS-5R (430)   | 1                    |
| 170        | 6R                 | JCK-6R (480)                                         | JCK-A-6R (480)   | 2HCLS-6R (500)      | 2BCLS-6R (500)   | 1                    |
| 200        | 9R                 | JCK-9R (720)                                         | JCK-A-9R (720)   | 2HCLS-200* (1000)   | 2BCLS-9R (1000)  | 1                    |
| 230        | 12R                | JCK-12R (970)                                        | JCK-A-12R (970)  | 2HCLS-230* (1250)   | 2BCLS-12R (1250) | 1                    |
| 390        | 18R                | JCK-18R (1430)                                       | JCK-A-18R (1430) | 2HCLS-390* (1700)   | 2BCLS-18R (1700) | 2                    |
| 450        | 24R                | JCK-24R (1880)                                       | JCK-A-24R (1880) | 2HCLS-24R (2100)    | 2BCLS-24R (2100) | 2                    |

\* Does not comply with ANSI C37.46 for "R" rating.

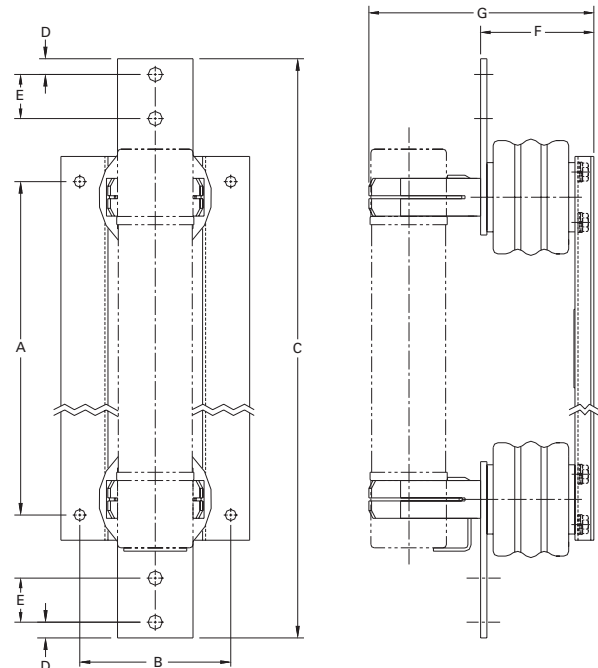
## JCK and 2HCLS Type mountings -in (mm)

| Catalog number               | Hole centers |           | Overall length | Hole Inset  | Hole centers | Contact height | Overall height | BIL rating (kV) |
|------------------------------|--------------|-----------|----------------|-------------|--------------|----------------|----------------|-----------------|
|                              | A            | B         |                |             |              |                |                |                 |
| Disconnect single barrel†    |              |           |                |             |              |                |                |                 |
| 2CLE-GDM-D                   | 8.24 (209.3) | 6 (152.4) | 18 (457.2)     | 0.62 (15.7) | 1.75 (44.4)  | 4.5 (114.3)    | 11.72 (297.7)  | 60              |
| 2CLE-PDM-D                   | 8.24 (209.3) | 6 (152.4) | 18 (457.2)     | 0.62 (15.7) | 1.75 (44.4)  | 4.5 (114.3)    | 11.72 (297.7)  | 60              |
| Disconnect double barrel†    |              |           |                |             |              |                |                |                 |
| 2CLE-GDM-E                   | 8.24 (209.3) | 6 (152.4) | 18 (457.2)     | 0.62 (15.7) | 1.75 (44.4)  | 4.5 (114.3)    | 15.28 (388.1)  | 60              |
| 2CLE-PDM-E                   | 8.24 (209.3) | 6 (152.4) | 18 (457.2)     | 0.62 (15.7) | 1.75 (44.4)  | 4.5 (114.3)    | 15.28 (388.1)  | 60              |
| Non-disconnect single barrel |              |           |                |             |              |                |                |                 |
| 2CLE-GNM-D                   | 8.24 (209.3) | 6 (152.4) | 18 (457.2)     | 0.62 (15.7) | 1.75 (44.4)  | 4.5 (114.3)    | 8.79 (223.3)   | 60              |
| 2CLE-PNM-D                   | 8.24 (209.3) | 6 (152.4) | 18 (457.2)     | 0.62 (15.7) | 1.75 (44.4)  | 4.5 (114.3)    | 8.79 (223.3)   | 60              |
| Non-disconnect double barrel |              |           |                |             |              |                |                |                 |
| 2CLE-GNM-E                   | 8.24 (209.3) | 6 (152.4) | 18 (457.2)     | 0.62 (15.7) | 1.75 (44.4)  | 4.5 (114.3)    | 12.48 (317.0)  | 60              |
| 2CLE-PNM-E                   | 8.24 (209.3) | 6 (152.4) | 18 (457.2)     | 0.62 (15.7) | 1.75 (44.4)  | 4.5 (114.3)    | 12.48 (317.0)  | 60              |

## 2.4kV disconnect mounting†

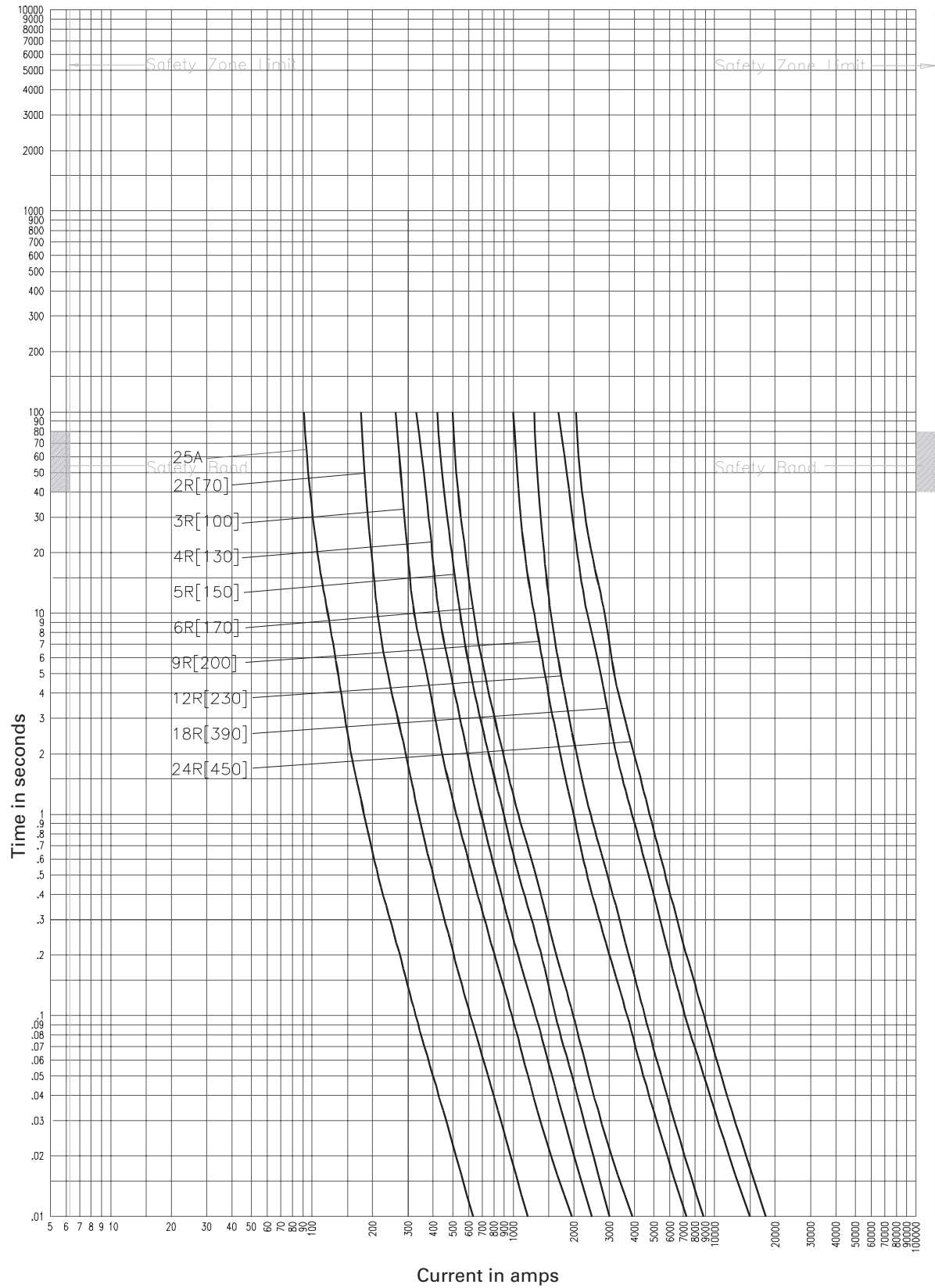


## 2.4kV non-disconnect mounting



† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

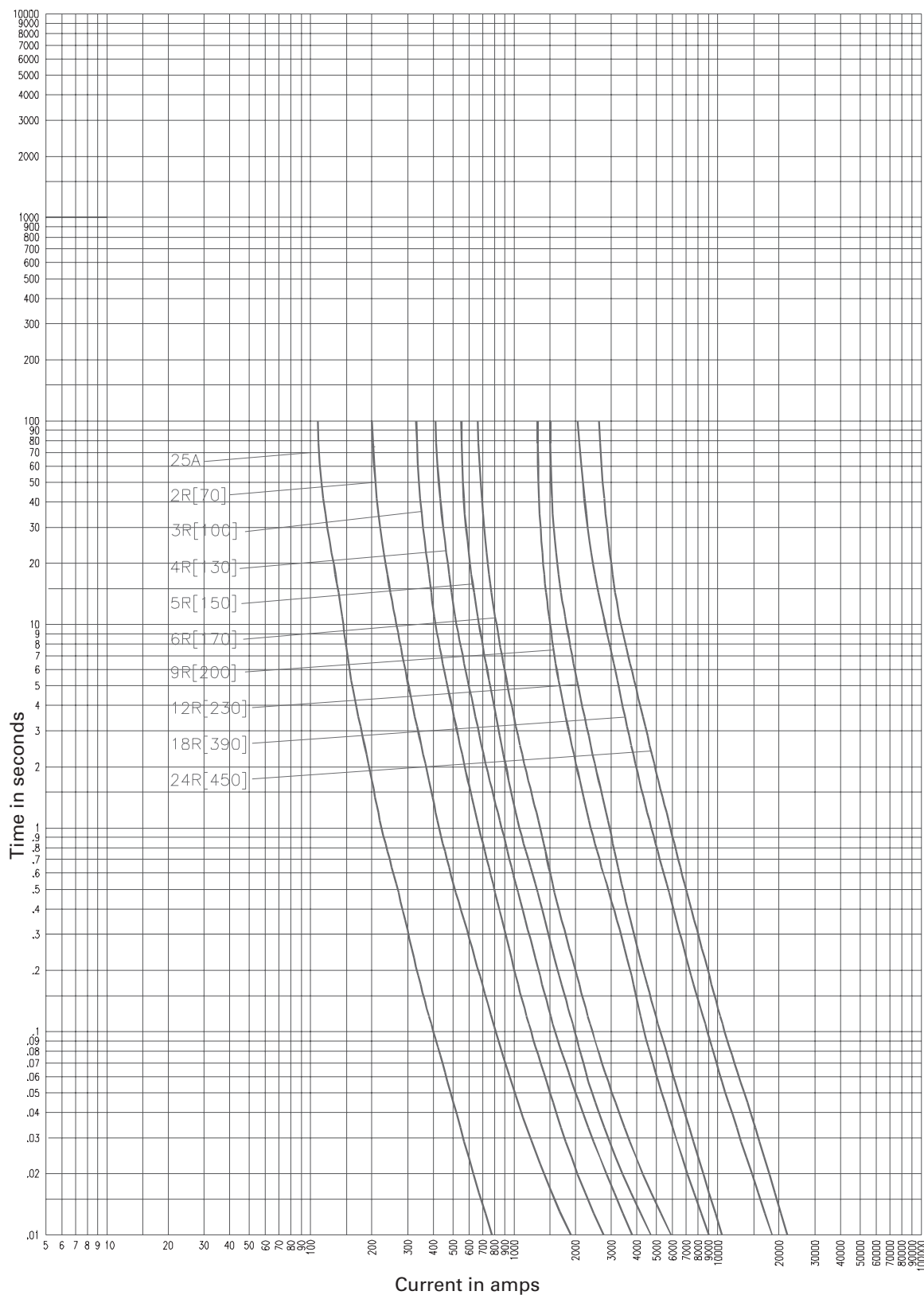
2.4kV time-current curves — minimum melting for 2HCLS-<sub>R</sub> and 2BCLS-<sub>R</sub> (25A, 2R-24R @25°C)



2HCLS-<sub>R</sub> and 2BCLS-<sub>R</sub>

CURVE 66664702  
January 2001  
Reference # 666647,  
512853, 639405

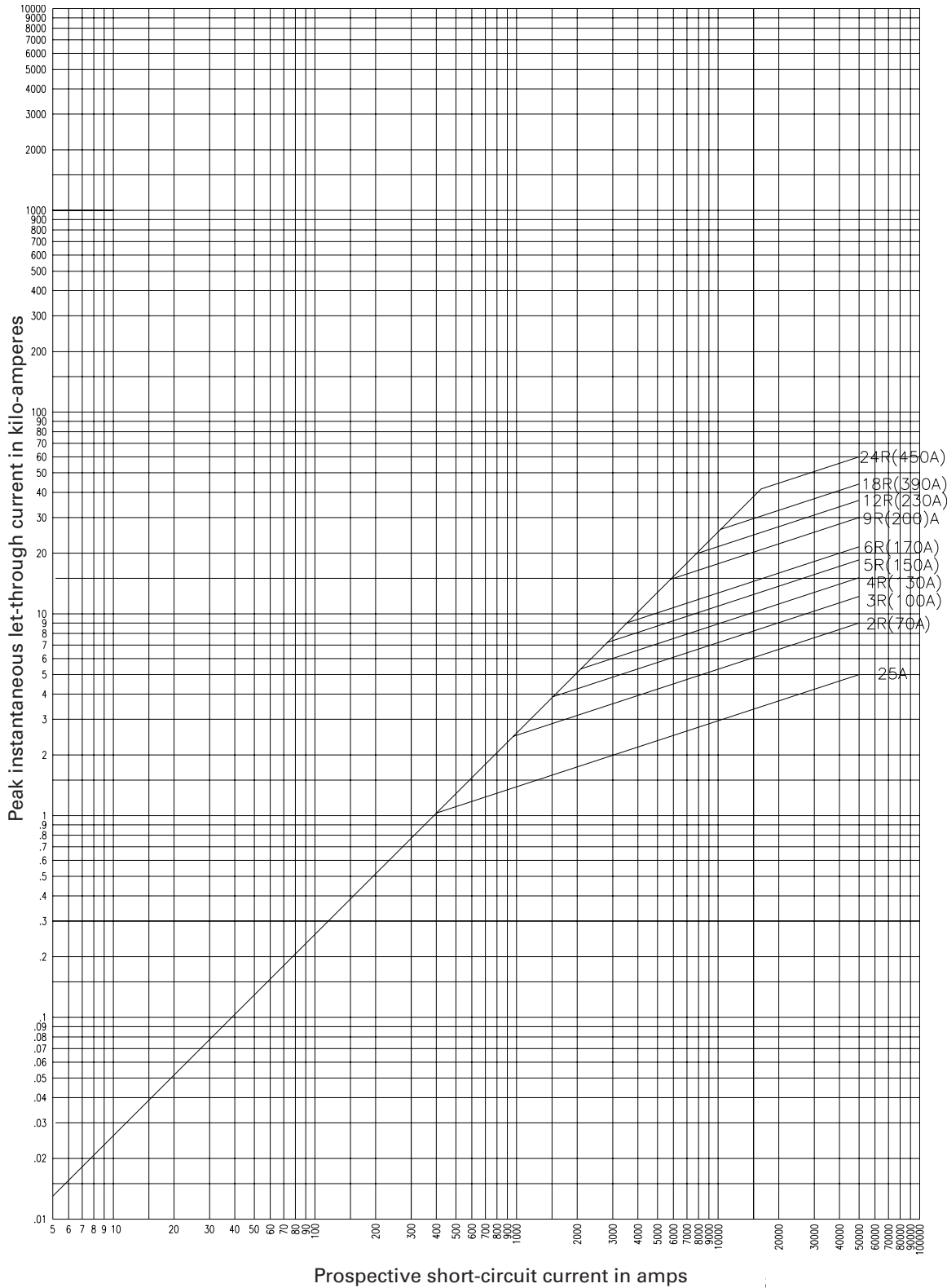
2.4kV time-current curves — total clearing for 2HCLS-\_R and 2BCLS-\_R (25A, 2R-24R @25°C)



2HCLS-\_R and 2BCLS-\_R

CURVE 66664704  
January 2000  
Reference # 666647,  
512854, 639406

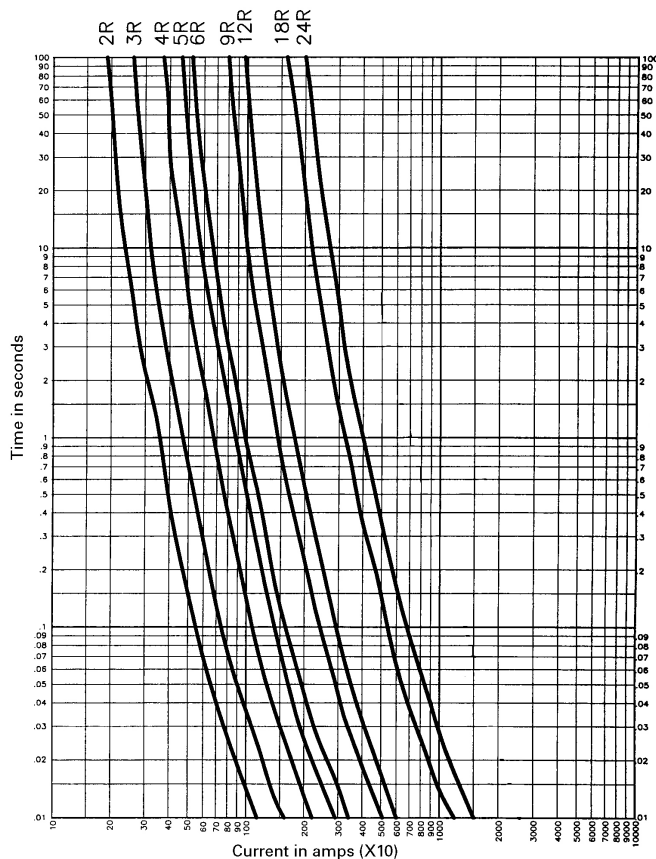
2.4kV peak let-through curves for 2HCLS- \_R and 2BCLS- \_R (25A, 2R-24R @25°C)



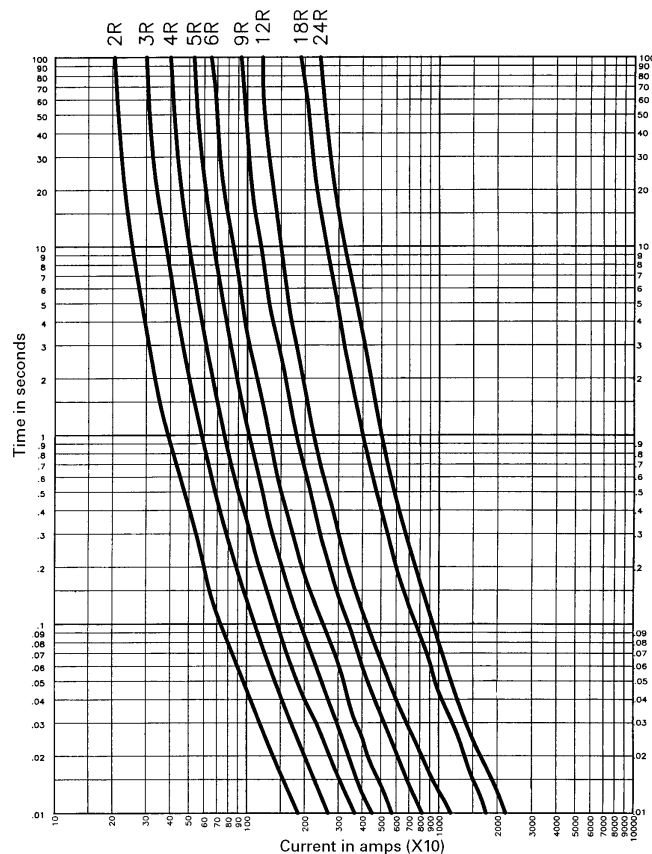
2HCLS- \_R and 2BCLS- \_R

CURVE 66700202  
January 2001  
Reference # 639315

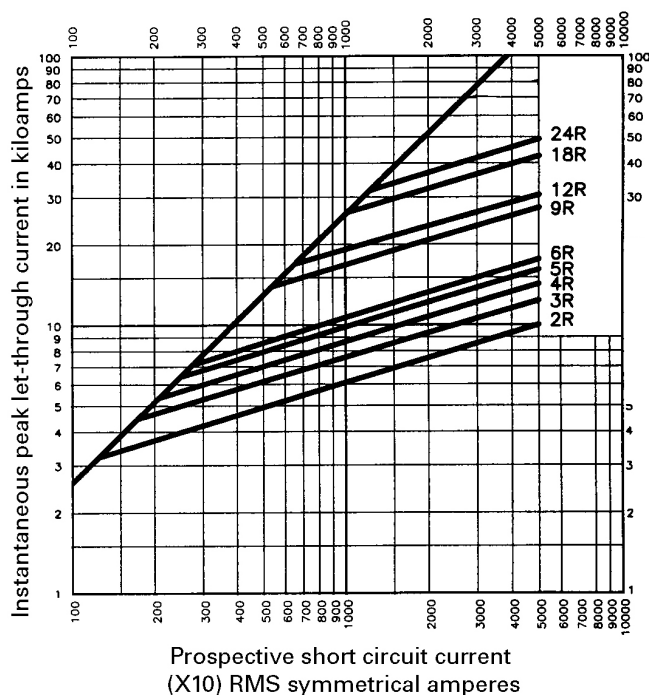
2.4kV time-current curves — minimum melting for JCK-\_R  
and JCK-A-\_R (2R-24R @25°C)



2.4kV time-current curves — total clearing for JCK-\_R  
and JCK-A-\_R (2R-24R @25°C)



2.4kV peak let-through curves for JCK-\_R and JCK-A-\_R (2R-  
24R @25°C)



## 4.8kV R-Rated fuses

### Catalog symbols:

| Code-(amps) | Construction                                  |
|-------------|-----------------------------------------------|
| 5CLS-30     | Standard - short (30A)                        |
| JCL- R      | Standard - short (2R - 24R)                   |
| 5LCLS- R    | Standard - long (2R - 24R)                    |
| JCL-A- R    | AMPGARD hookeye* (2R - 24R)                   |
| 5ACLS-30    | AMPGARD hookeye* (30A)                        |
| 5HCLS-30    | Hermetically sealed AMPGARD hookeye* (30A)    |
| 5HCLS- R    | Hermetically sealed AMPGARD hookeye* (2R-24R) |
| 5BCLS-30    | Bolt-on (30A)                                 |
| 5BCLS- R    | Bolt-on (2R - 44R)                            |

\* For use in 400 amp AMPGARD motor starters.

### Ratings:

- Volts
  - 4.8kV (nominal)
  - 5.08kV (max design)
- Amps
  - 30-450A
- Interrupting ratings
  - 50kA Sym
  - 80kA Asym

### Agency information:

- UL Recognized: Guide #MSSS2, File #E96676 (JCL- R [2R-24R] and JCL-A- R [2R-24R])

### Recommended fuse holders for standard constructions:

| Amp range                                 | Description                            | BIL (kV) | Cat. No.   |
|-------------------------------------------|----------------------------------------|----------|------------|
| <b>Fuseclips</b>                          |                                        |          |            |
| 30-230A                                   | 3" enclosed fuseclip*                  | —        | A3354730   |
| 30-450A                                   | 3" open fuseclip                       | —        | 1A0065     |
|                                           | 3" spring loaded open fuseclip         | —        | 9078A67G04 |
| <b>Fuse holders for CLS / JCL / 5HCLS</b> |                                        |          |            |
| 30-230A<br>Single barrel                  | Non-disconnect holder, porcelain       | 60       | 5HLE-PNM-D |
|                                           | Non-disconnect holder, glass polyester | 60       | 5HLE-GNM-D |
|                                           | Disconnect holder, porcelain           | 60       | 5HLE-PDM-D |
|                                           | Disconnect holder, glass polyester     | 60       | 5HLE-GDM-D |
| 390-450A<br>Double barrel                 | Non-disconnect holder, porcelain       | 60       | 5HLE-PNM-E |
|                                           | Non-disconnect holder, glass polyester | 60       | 5HLE-GNM-E |
|                                           | Disconnect holder, porcelain           | 60       | 5HLE-PDM-E |
|                                           | Disconnect holder, glass polyester     | 60       | 5HLE-GDM-E |
| <b>Fuse holders for 5LCLS†</b>            |                                        |          |            |
| 70-230A<br>Single barrel                  | Non-disconnect holder, porcelain       | 60       | 5CLE-PNM-D |
|                                           | Non-disconnect holder, glass polyester | 60       | 5CLE-GNM-D |
|                                           | Disconnect holder, porcelain           | 60       | 5CLE-PDM-D |
|                                           | Disconnect holder, glass polyester     | 60       | 5CLE-GDM-D |
|                                           | Disconnect holder, porcelain           | 75       | 8CLE-PDM-D |
|                                           | Disconnect holder, glass polyester     | 75       | 8CLE-GDM-D |
|                                           | Disconnect holder, porcelain           | 60       | 5CLE-PDM-E |
|                                           | Disconnect holder, glass polyester     | 60       | 5CLE-GDM-E |

\* Single barrel only, not sold in pairs.

\*\* Not available for standard - long constructions

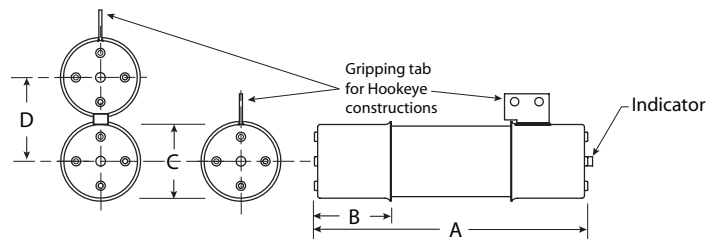
† Not available for 390 to 450 amp ratings.

### Dimensions - in [mm]

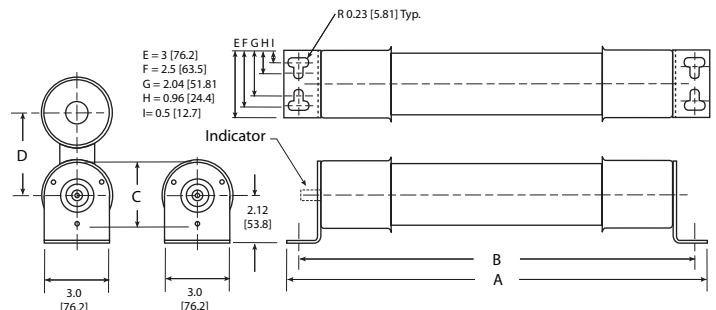
| Construction     | Amp range | Dimension  |            |        |          |
|------------------|-----------|------------|------------|--------|----------|
|                  |           | A          | B          | C      | D        |
| Standard - short | 30-230A   | 15.6 (396) | 3 (76)     | 3 (76) | —        |
|                  | 390-450A  | 15.6 (396) | 3 (76)     | 3 (76) | 3.3 (84) |
| Standard - long  | 70-230A   | 17.9 (455) | 3 (76)     | 3 (76) | —        |
|                  | 390-450A  | 17.9 (455) | 3 (76)     | 3 (76) | 3.3 (84) |
| AMPGARD hookeye* | 30-230A   | 15.9 (404) | 3 (76)     | 3 (76) | —        |
|                  | 390-450A  | 15.9 (404) | 3 (76)     | 3 (76) | 3.3 (84) |
| Bolt-on          | 30-230A   | 19.2 (488) | 17.9 (455) | 3 (76) | —        |
|                  | 390-450A  | 19.2 (488) | 17.9 (455) | 3 (76) | 3.3 (84) |

\* Includes hermetically sealed versions.

### Standard (short and long) and AMPGARD Hookeye



### Bolt-on





#### 4.8kV R-Rated fuse catalog numbers

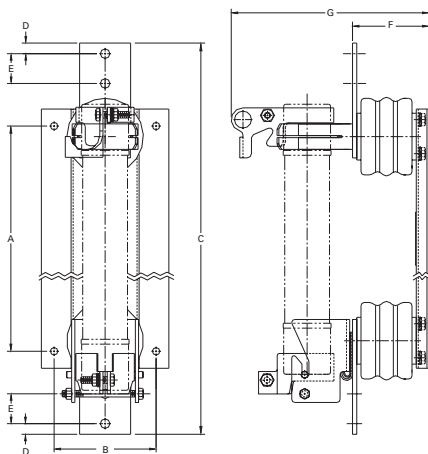
|            |             | Mounting style (minimum interrupting rating in amps) |                  |                |                     |                  | Number<br>of barrels |
|------------|-------------|------------------------------------------------------|------------------|----------------|---------------------|------------------|----------------------|
| "R"        |             | AMPGARD Hookeye                                      |                  |                |                     |                  |                      |
| Amp Rating | Designation | Standard - short                                     | Standard - long  | Regular        | Hermetically sealed | Bolt-on          |                      |
| 30         | —           | 5CLS-30* (95)                                        | —                | 5ACLS-30* (95) | 5HCLS-30* (95)      | 5BCLS-30* (95)   | 1                    |
| 70         | 2R          | JCL-2R (165)                                         | 5LCLS-2R (165)   | JCL-A-2R       | 5HCLS-2R (180)      | 5BCLS-2R (180)   | 1                    |
| 100        | 3R          | JCL-3R (220)                                         | 5LCLS-3R (220)   | JCL-A-3R       | 5HCLS-3R (270)      | 5BCLS-3R (270)   | 1                    |
| 130        | 4R          | JCL-4R (320)                                         | 5LCLS-4R (320)   | JCL-A-4R       | 5HCLS-4R (350)      | 5BCLS-4R (350)   | 1                    |
| 150        | 5R          | JCL-5R (410)                                         | 5LCLS-5R (410)   | JCL-A-5R       | 5HCLS-5R (450)      | 5BCLS-5R (450)   | 1                    |
| 170        | 6R          | JCL-6R (480)                                         | 5LCLS-6R (480)   | JCL-A-6R       | 5HCLS-6R (540)      | 5BCLS-6R (540)   | 1                    |
| 200        | 9R          | JCL-9R (720)                                         | 5LCLS-9R (720)   | JCL-A-9R       | 5HCLS-9R (700)      | 5BCLS-9R (700)   | 1                    |
| 230        | 12R         | JCL-12R (970)                                        | 5LCLS-12R (970)  | JCL-A-12R      | 5HCLS-12R (1000)    | 5BCLS-12R (1000) | 1                    |
| 390        | 18R         | JCL-18R (1430)                                       | 5LCLS-18R (1430) | JCL-A-18R      | 5HCLS-18R (1450)    | 5BCLS-18R (1450) | 2                    |
| 450        | 24R         | JCL-24R (1880)                                       | 5LCLS-24R (1880) | JCL-A-24R      | 5HCLS-24R (2000)    | 5BCLS-24R (2000) | 2                    |
| 600        | 32R         | —                                                    | —                | —              | —                   | 5BCLS-32R (2600) | 2                    |
| 650        | 36R         | —                                                    | —                | —              | —                   | 5BCLS-36R (3000) | 2                    |
| 800        | 44R         | —                                                    | —                | —              | —                   | 5BCLS-44R (3250) | 2                    |

\* Does not comply with ANSI C37.46 for "R" rating.

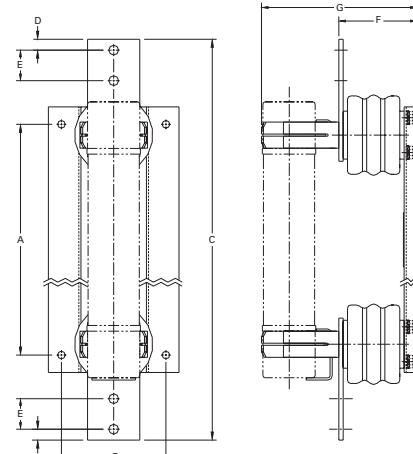
#### 5CLS, JCL, JCL-A, 5ACLS, 5HCLS and 5LCLS Type mountings - in (mm)

|                                     | Hole centers<br>A | Overall length<br>B | Hole insert<br>C | Hole centers<br>D | Contact height<br>E | Overall height<br>F |               |
|-------------------------------------|-------------------|---------------------|------------------|-------------------|---------------------|---------------------|---------------|
| <b>Disconnect single barrel†</b>    |                   |                     |                  |                   |                     |                     |               |
| 5CLE-GDM-D                          | 15.24 (387.1)     | 6 (152.4)           | 25 (647.7)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 11.72 (297.7) |
| 5CLE-PDM-D                          | 15.24 (387.1)     | 6 (152.4)           | 25 (647.7)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 11.72 (297.7) |
| 5HLE-PDM-D                          | 16.25 (412.8)     | 6 (152.4)           | 23 (584.2)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 11.72 (297.7) |
| 5HLE-GDM-D                          | 16.25 (412.8)     | 6 (152.4)           | 23 (584.2)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 11.72 (297.7) |
| <b>Disconnect double barrel†</b>    |                   |                     |                  |                   |                     |                     |               |
| 5CLE-GDM-E                          | 15.24 (387.1)     | 6 (152.4)           | 25 (647.7)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 15.28 (388.1) |
| 5CLE-PDM-E                          | 15.24 (387.1)     | 6 (152.4)           | 25 (647.7)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 15.28 (388.1) |
| 5HLE-GDM-E                          | 16.25 (412.8)     | 6 (152.4)           | 23 (584.2)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 15.28 (388.1) |
| 5HLE-PDM-E                          | 16.25 (412.8)     | 6 (152.4)           | 23 (584.2)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 15.28 (388.1) |
| <b>Non-disconnect single barrel</b> |                   |                     |                  |                   |                     |                     |               |
| 5CLE-GNM-D                          | 15.24 (387.1)     | 6 (152.4)           | 25 (635.0)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 8.79 (223.3)  |
| 5CLE-PNM-D                          | 15.24 (387.1)     | 6 (152.4)           | 25 (635.0)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 8.79 (223.3)  |
| 5HLE-GNM-D                          | 16.25 (412.7)     | 6 (152.4)           | 23 (584.2)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 8.79 (223.3)  |
| 5HLE-PNM-D                          | 16.25 (412.7)     | 6 (152.4)           | 23 (584.2)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 8.79 (223.3)  |
| <b>Non-disconnect double barrel</b> |                   |                     |                  |                   |                     |                     |               |
| 5HLE-PNM-E                          | 16.25 (412.7)     | 6 (152.4)           | 25 (635.0)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 12.48 (317.0) |
| 5HLE-GNM-E                          | 16.25 (412.7)     | 6 (152.4)           | 25 (635.0)       | 0.62 (15.7)       | 1.75 (44.4)         | 4.5 (114.3)         | 12.48 (317.0) |

#### 4.8kV disconnect mounting†

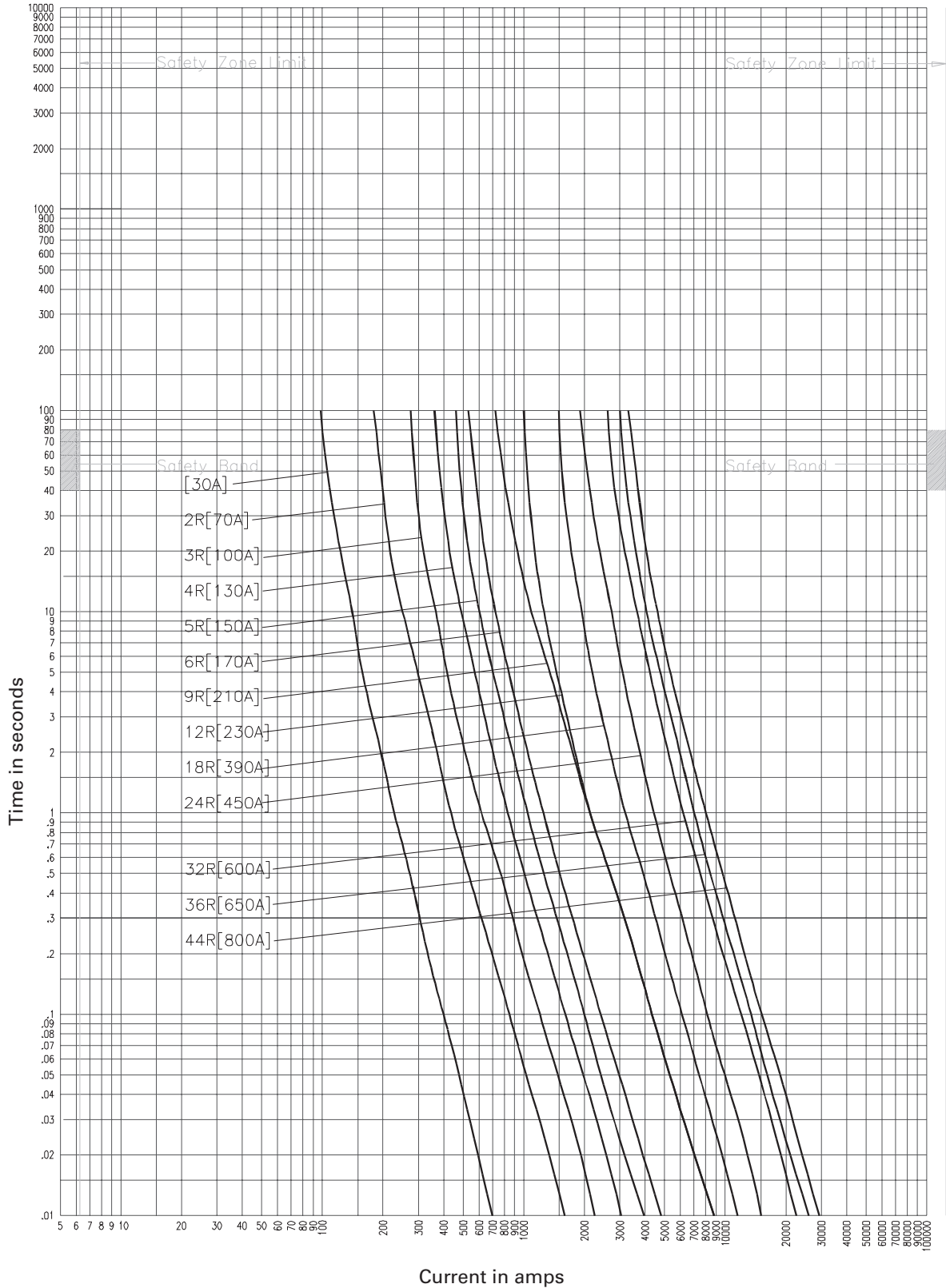


#### 4.8kV non-disconnect mounting



† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

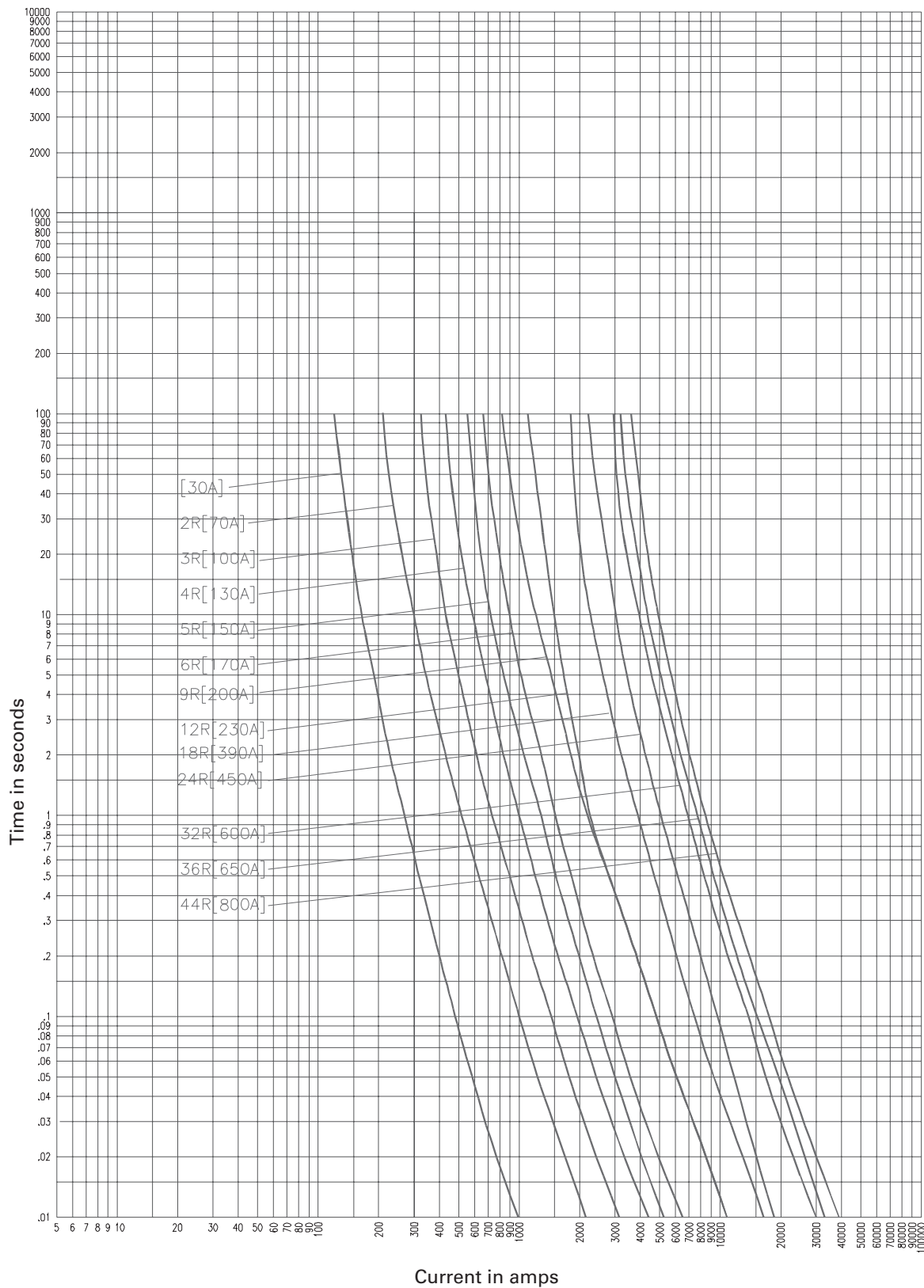
4.8kV time-current curves — minimum melting for 5ACLS-30, 5CLS-30, 5HCLS-<sub>R</sub>, 5BCLS-30 and 5BCLS-<sub>R</sub> (30A, 2R-24R @ 25°C)



5ACLS-30, 5CLS-30, 5HCLS-<sub>R</sub>, 5BCLS-30, 5BCLS-<sub>R</sub>,  
5MCLS-<sub>R</sub>-A, 5MCLS-<sub>R</sub>-B

CURVE 66690602  
January 2001  
Reference # 666907,  
666703, 666910,  
667000, 639472.

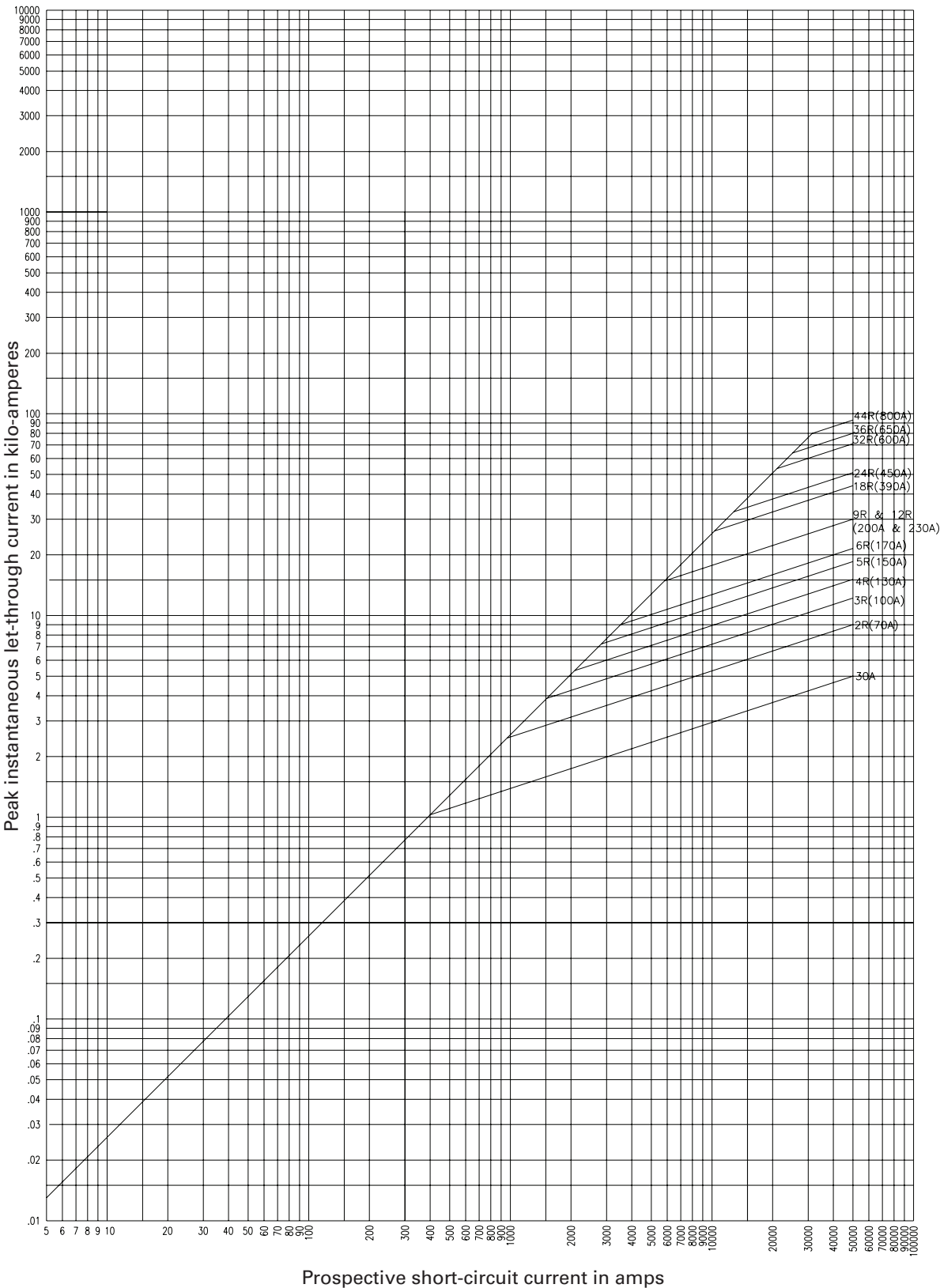
**4.8kV time-current curves — total clearing for 5ACLS-30, 5CLS-30, 5HCLS-\_R, 5BCLS-30 and 5BCLS-\_R (30A, 2R-24R @ 25°C)**



5ACLS-30, 5CLS-30, 5HCLS-\_R, 5BCLS-30, 5BCLS-\_R,  
5MCLS-\_R-A, 5MCLS-\_R-B

CURVE 66690702  
January 2001  
Reference # 666907  
666704, 666910,  
6670001, 639472.

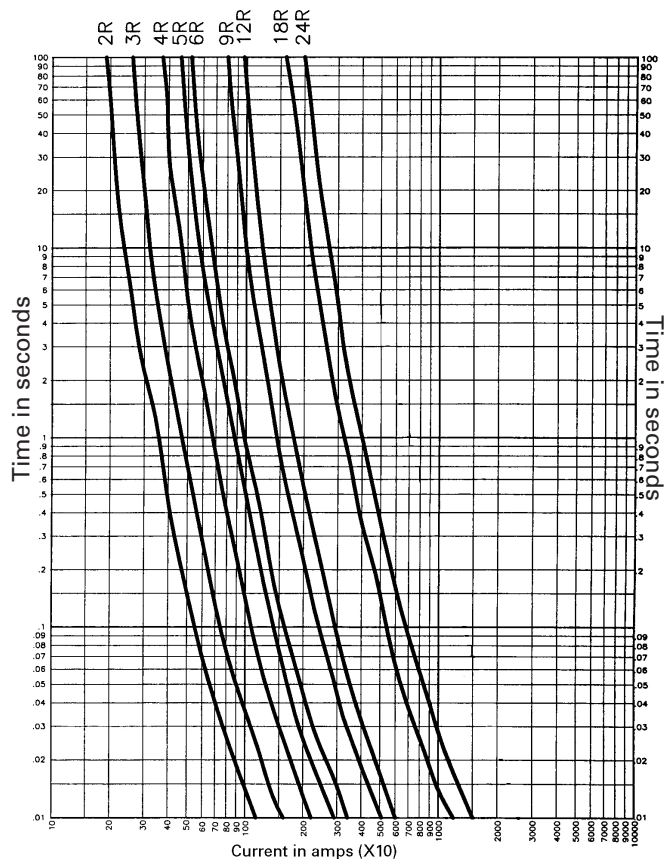
4.8kV peak let-through curves for 5ACLS-30, 5CLS-30, 5HCLS- \_R, 5BCLS-30 and 5BCLS- \_R (30A, 2R-24R @ 25°C)



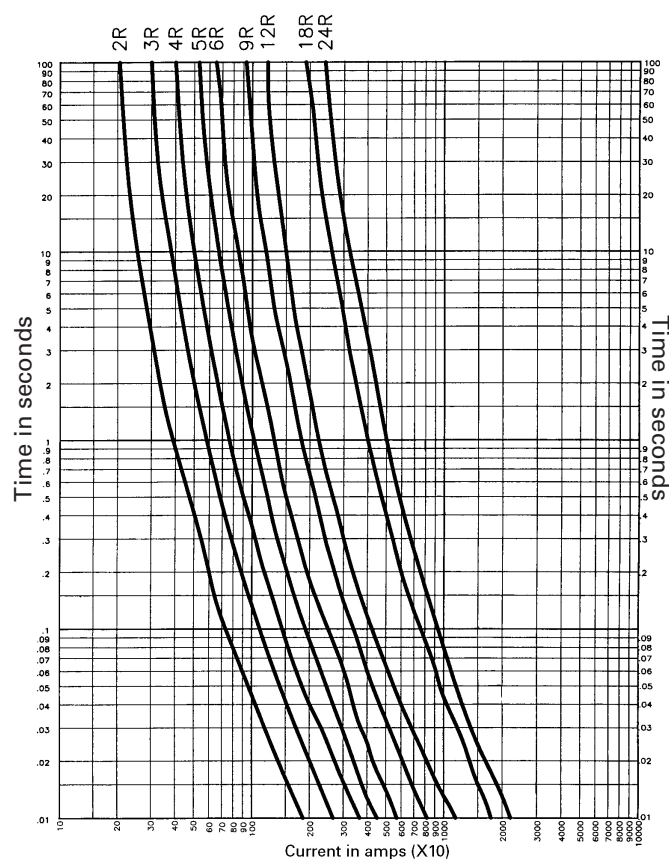
5ACLS-30, 5CLS-30, 5HCLS- \_R, 5BCLS-30, 5BCLS- \_R,  
5MCLS- \_R-A, 5MCLS- \_R-B

CURVE 66700203  
January 2001  
Reference # 639315  
667002, 667008

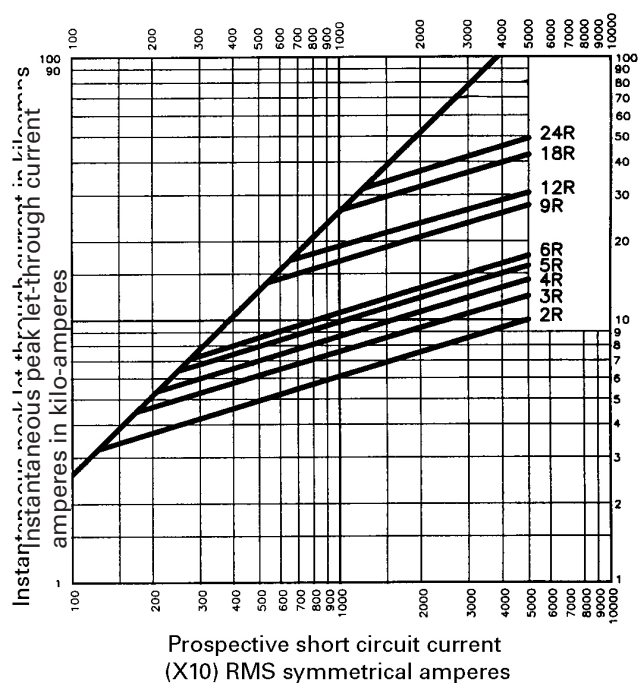
4.8kV time-current curves — minimum melting for JCL-<sub>R</sub> and JCL-A-<sub>R</sub> (2R-24R @25°C)



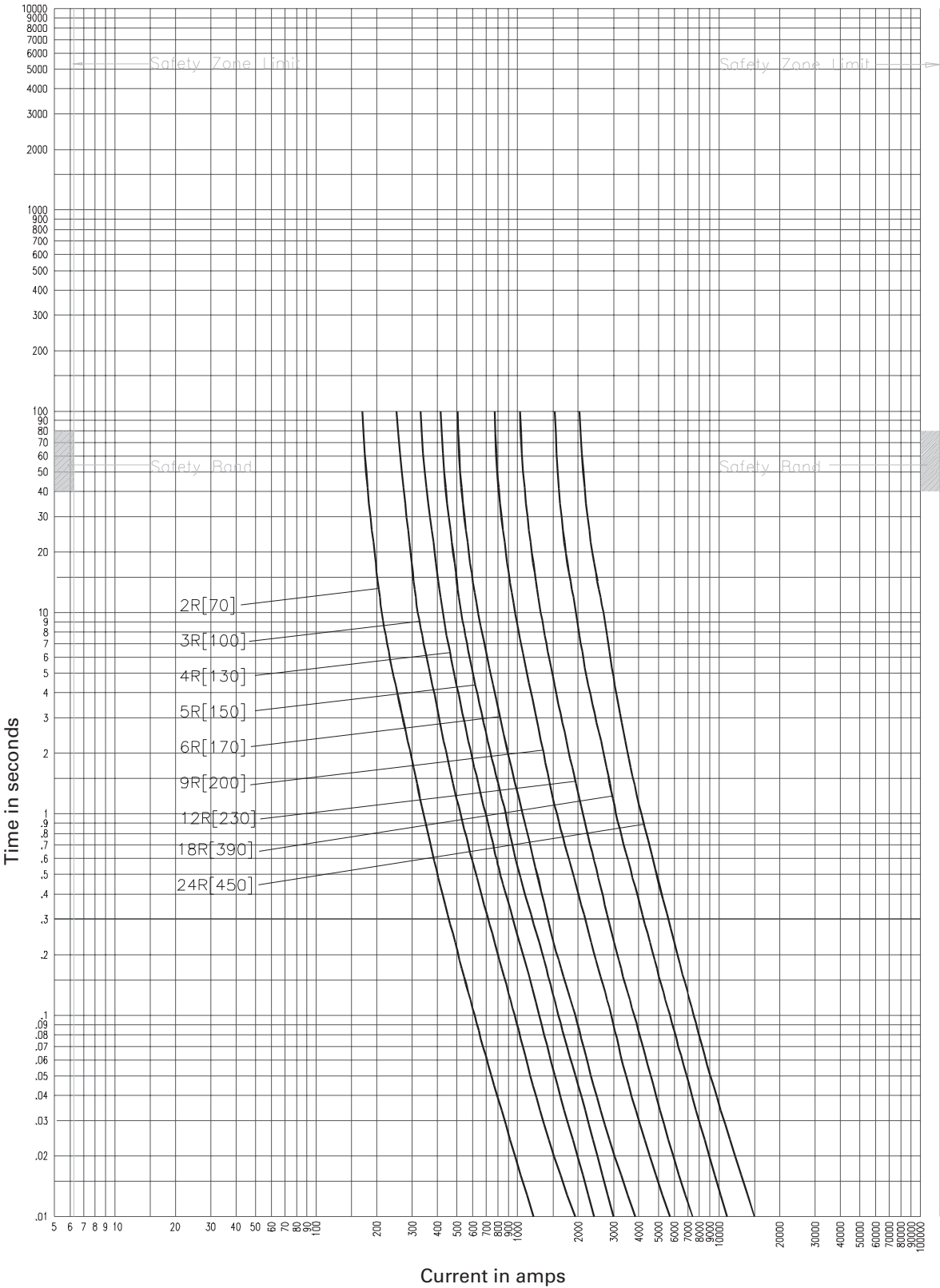
4.8kV time-current curves — total clearing for JCL-<sub>R</sub> and JCL-A-<sub>R</sub> (2R-24R @25°C)



4.8kV peak let-through curves for JCL-<sub>R</sub> and JCL-A-<sub>R</sub> (2R-24R @25°C)



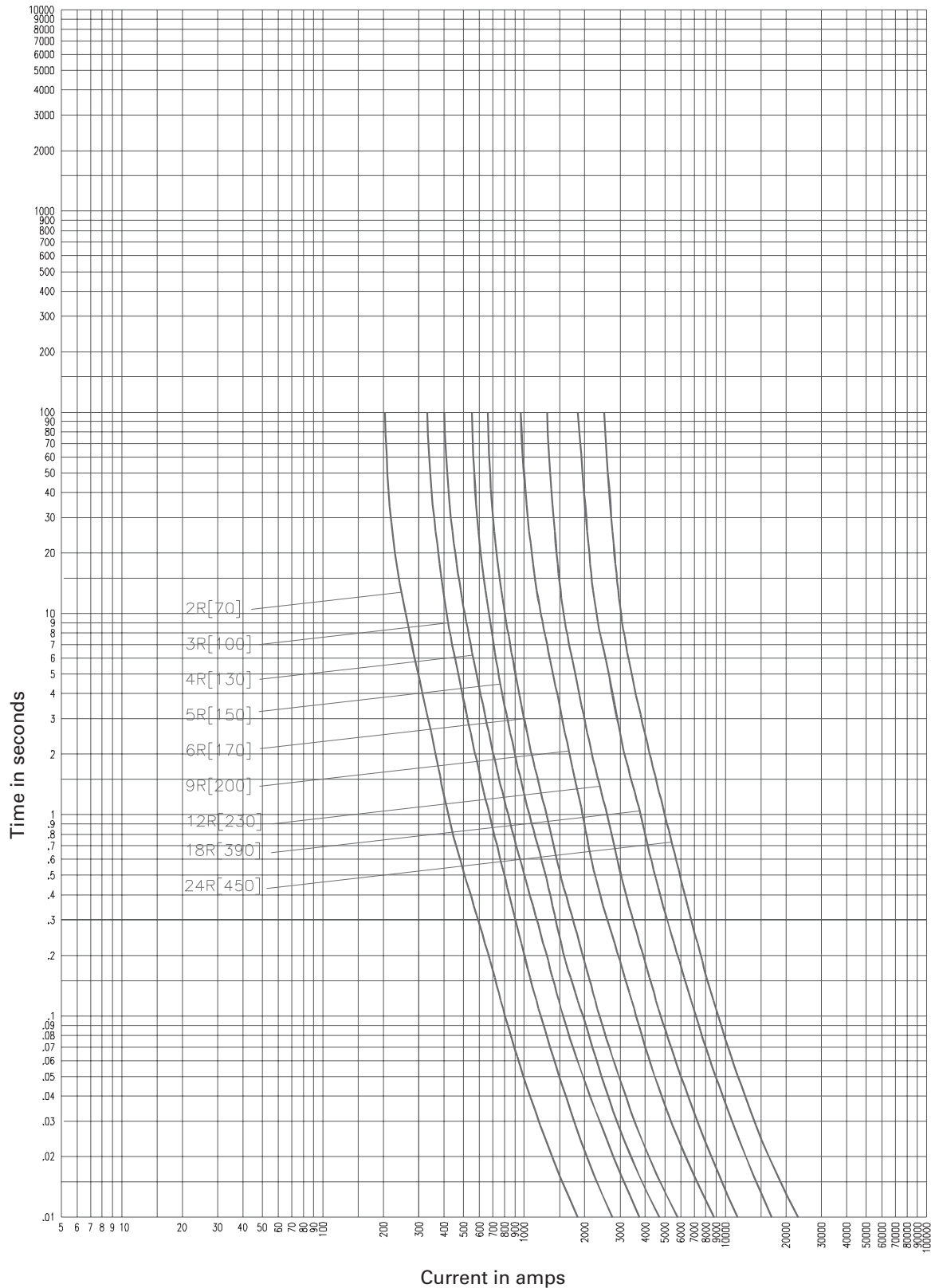
4.8kV time-current curves — minimum melting for 5LCLS-<sub>R</sub> (2R-24R @ 25°C)



5LCLS-<sub>R</sub>

CURVE 51285302  
January 2001  
Reference # 512853,  
563863.

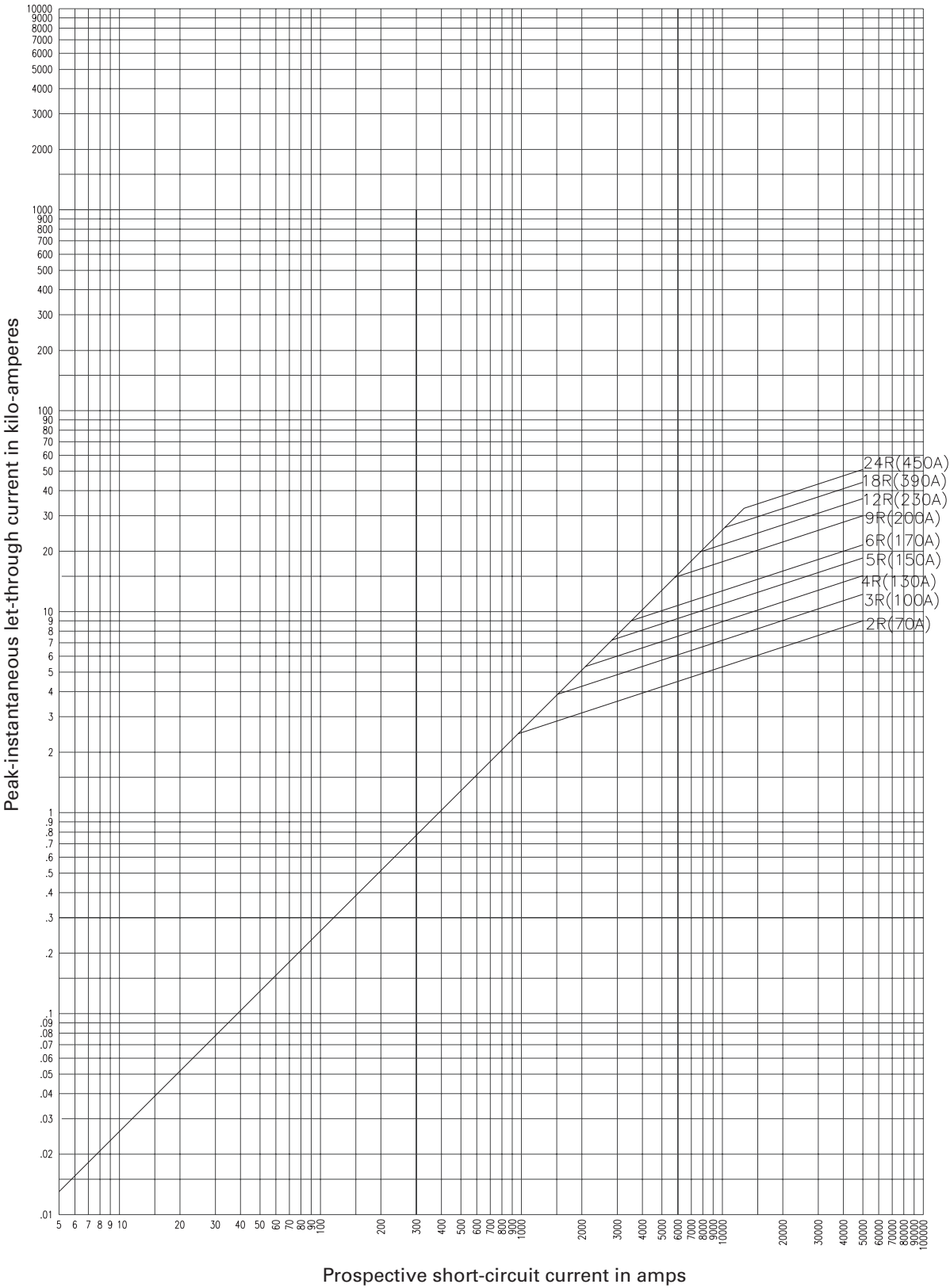
4.8kV time-current curves — total clearing for 5LCLS-\_R (2R-24R @ 25°C)



5LCLS-\_R

CURVE 51285402  
January 2001  
Reference # 512854,  
563864.

4.8kV peak let-through curves for 5LCLS- R (2R-24R @ 25°C)



5LCLS- R

CURVE 66700204  
January 2001  
Reference # 639315



## 7.2kV R-Rated fuses

### Catalog symbols:

| Code-(amps)R | Construction                |
|--------------|-----------------------------|
| 8CLS-_R      | Standard (2R - 6R)          |
| 7CLS-_R      | Standard (9R - 24R)         |
| 8ACLS-_R     | AMPGARD hookeye* (2R - 6R)  |
| 7ACLS-_R     | AMPGARD hookeye* (9R - 24R) |
| 7BCLS-_R     | Bolt-on (2R - 44R)          |

\* For use in 400 amp AMPGARD motor starters.

### Ratings:

- Volts
  - 7.2kV (nominal)
  - 8.3kV (max design 70-170A standard and AMPGARD Hookeye)
  - 7.2kV (max design 200-450A standard and AMPGARD Hookeye)
  - 7.2kV (max design 70-800 bolt-on)
- Amps 25-450A
- Interrupting ratings
  - 50kA Sym
  - 80kA Asym

### Recommended fuse holders for standard constructions:

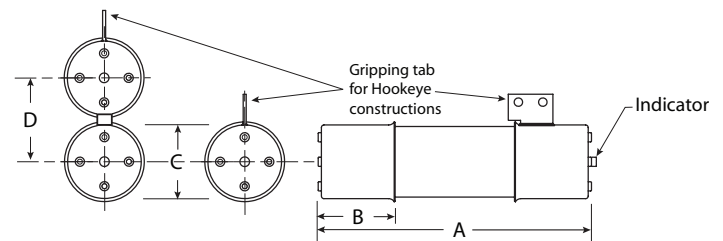
| Amp range                             | Description                            | BIL (kV) | Cat. No.   |
|---------------------------------------|----------------------------------------|----------|------------|
| <b>Fuseclips</b>                      |                                        |          |            |
| 70-230A                               | 3" Enclosed fuseclip*                  | —        | A3354730   |
| 70-450A                               | 3" Open fuseclip                       | —        | 1A0065     |
|                                       | 3" Spring loaded open fuseclip         | —        | 9078A67G04 |
| <b>Fuse holders for 7CLS and 8CLS</b> |                                        |          |            |
| 70-230A<br>Single barrel              | Non-disconnect holder, porcelain       | 75       | 8HLE-PNM-D |
|                                       | Non-disconnect holder, glass polyester | 75       | 8HLE-GNM-D |
|                                       | Disconnect holder, porcelain           | 75       | 8HLE-PDM-D |
|                                       | Disconnect holder, glass polyester     | 75       | 8HLE-GDM-D |
| 390-450A<br>Double barrel             | Non-disconnect holder, porcelain       | 75       | 8HLE-PNM-E |
|                                       | Non-disconnect holder, glass polyester | 75       | 8HLE-GNM-E |
|                                       | Disconnect holder, porcelain           | 75       | 8HLE-PDM-E |
|                                       | Disconnect holder, glass polyester     | 75       | 8HLE-GDM-E |

\* Single barrel only, not sold in pairs.

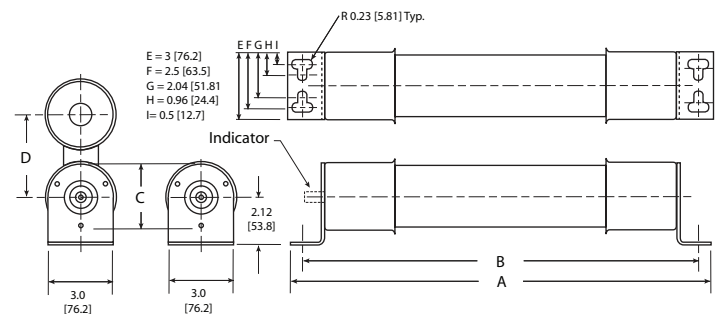
### Dimensions - in [mm]

| Construction    | Amp range | Dimension  |            |         |          |
|-----------------|-----------|------------|------------|---------|----------|
|                 |           | A          | B          | C       | D        |
| Standard        | 70-230A   | 15.8 (401) | 3 (76)     | 3 (76)  | —        |
|                 | 390-450A  | 15.8 (401) | 3 (76)     | 3 (76)  | 3.3 (84) |
| AMPGARD hookeye | 70-230A   | 15.8 (401) | 3 (76)     | 3 (76)  | —        |
|                 | 390-450A  | 15.8 (401) | 3 (76)     | 3 (76)  | 3.3 (84) |
| Bolt-on         | 70-230A   | 19.2 (488) | 17.9 (455) | 3 (76)  | —        |
|                 | 390-650A  | 19.2 (488) | 17.9 (455) | 3 (76)  | 3.3 (84) |
|                 | 800A      | 19.2 (488) | 17.9 (455) | 4 (102) | 3.3 (84) |

### Standard and AMPGARD hookeye



### Bolt-on



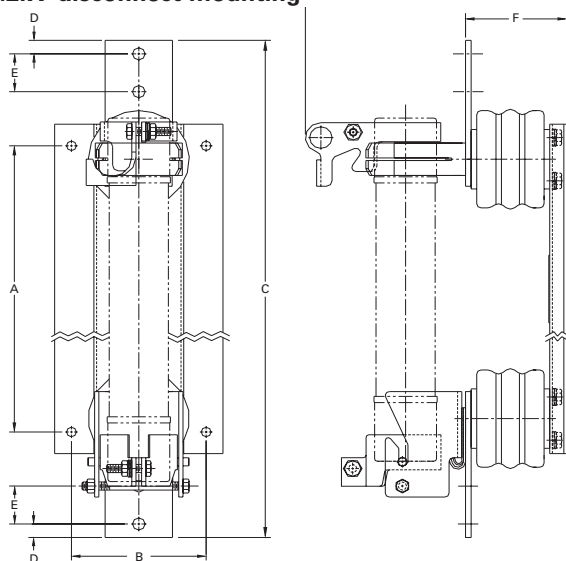
7.2kV R-Rated fuse catalog numbers

| Amp rating | "R" Designation | Mounting style (minimum interrupting rating in amps) |                  |                  | Number of barrels |
|------------|-----------------|------------------------------------------------------|------------------|------------------|-------------------|
|            |                 | Standard                                             | AMPGARD Hookeye  | Bolt-on          |                   |
| 70         | 2R              | 8CLS-2R (160)                                        | 8ACLS-2R (160)   | 7BCLS-2R (160)   | 1                 |
| 100        | 3R              | 8CLS-3R (250)                                        | 8ACLS-3R (250)   | 7BCLS-3R (250)   | 1                 |
| 130        | 4R              | 8CLS-4R (325)                                        | 8ACLS-4R (325)   | 7BCLS-4R (325)   | 1                 |
| 150        | 5R              | 8CLS-5R (390)                                        | 8ACLS-5R (390)   | 7BCLS-5R (390)   | 1                 |
| 170        | 6R              | 8CLS-6R (500)                                        | 8ACLS-6R (500)   | 7BCLS-6R (500)   | 1                 |
| 200        | 9R              | 7CLS-9R (750)                                        | 7ACLS-9R (750)   | 7BCLS-9R (750)   | 1                 |
| 230        | 12R             | 7CLS-12R (1000)                                      | 7ACLS-12R (1000) | 7BCLS-12R (1000) | 1                 |
| 390        | 18R             | 7CLS-18R (1450)                                      | 7ACLS-18R (1450) | 7BCLS-18R (1450) | 2                 |
| 450        | 24R             | 7CLS-24R (2500)                                      | 7ACLS-24R (2500) | 7BCLS-24R (2500) | 2                 |
| 650        | 36R             | —                                                    | —                | 7BCLS-36R (3000) | 2                 |
| 800        | 44R             | —                                                    | —                | 7BCLS-44R (3250) | 2                 |

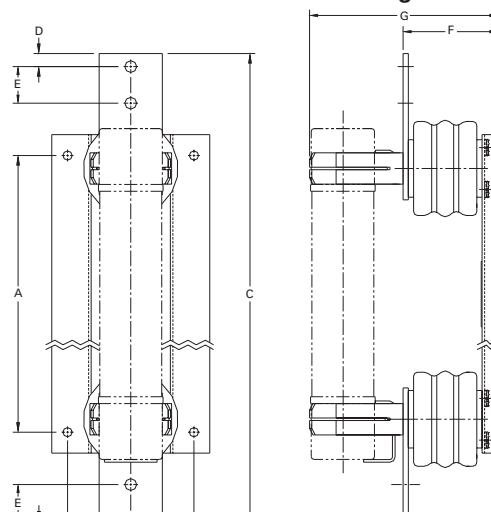
8CLS, 8ACLS, 7CLS, 7ACLS Type mountings - in (mm)

| Catalog number               | Hole centers  |           | Overall length | Hole inset  | Hole centers | Contact height | Overall height | BIL rating (kV) |
|------------------------------|---------------|-----------|----------------|-------------|--------------|----------------|----------------|-----------------|
|                              | A             | B         |                |             |              |                |                |                 |
| Disconnect single barrel†    |               |           |                |             |              |                |                |                 |
| 8HLE-GDM-D                   | 16.25 (412.8) | 6 (152.4) | 23 (584.2)     | 0.62 (15.7) | 1.75 (44.4)  | 7 (177.8)      | 11.72 (297.7)  | 75              |
| 8HLE-PDM-D                   | 16.25 (412.8) | 6 (152.4) | 23 (584.2)     | 0.62 (15.7) | 1.75 (44.4)  | 7 (177.8)      | 11.72 (297.7)  | 75              |
| Disconnect double barrel†    |               |           |                |             |              |                |                |                 |
| 8HLE-GDM-E                   | 16.25 (412.8) | 6 (152.4) | 23 (584.2)     | 0.62 (15.7) | 1.75 (44.4)  | 7 (177.8)      | 17.78 (451.6)  | 75              |
| 8HLE-PDM-E                   | 16.25 (412.8) | 6 (152.4) | 23 (584.2)     | 0.62 (15.7) | 1.75 (44.4)  | 7 (177.8)      | 17.78 (451.6)  | 75              |
| Non-disconnect single barrel |               |           |                |             |              |                |                |                 |
| 8HLE-GNM-D                   | 16.25 (412.7) | 6 (152.4) | 23 (584.2)     | 0.62 (15.7) | 1.75 (44.4)  | 7 (177.8)      | 11.29 (286.7)  | 75              |
| 8HLE-PNM-D                   | 16.25 (412.7) | 6 (152.4) | 23 (584.2)     | 0.62 (15.7) | 1.75 (44.4)  | 7 (177.8)      | 11.29 (286.7)  | 75              |
| Non-disconnect double barrel |               |           |                |             |              |                |                |                 |
| 8HLE-GNM-E                   | 16.25 (412.7) | 6 (152.4) | 23 (584.2)     | 0.62 (15.7) | 1.75 (44.4)  | 7 (177.8)      | 14.98 (380.5)  | 75              |
| 8HLE-PNM-E                   | 16.25 (412.7) | 6 (152.4) | 23 (584.2)     | 0.62 (15.7) | 1.75 (44.4)  | 7 (177.8)      | 14.98 (380.5)  | 75              |

7.2kV disconnect mounting†

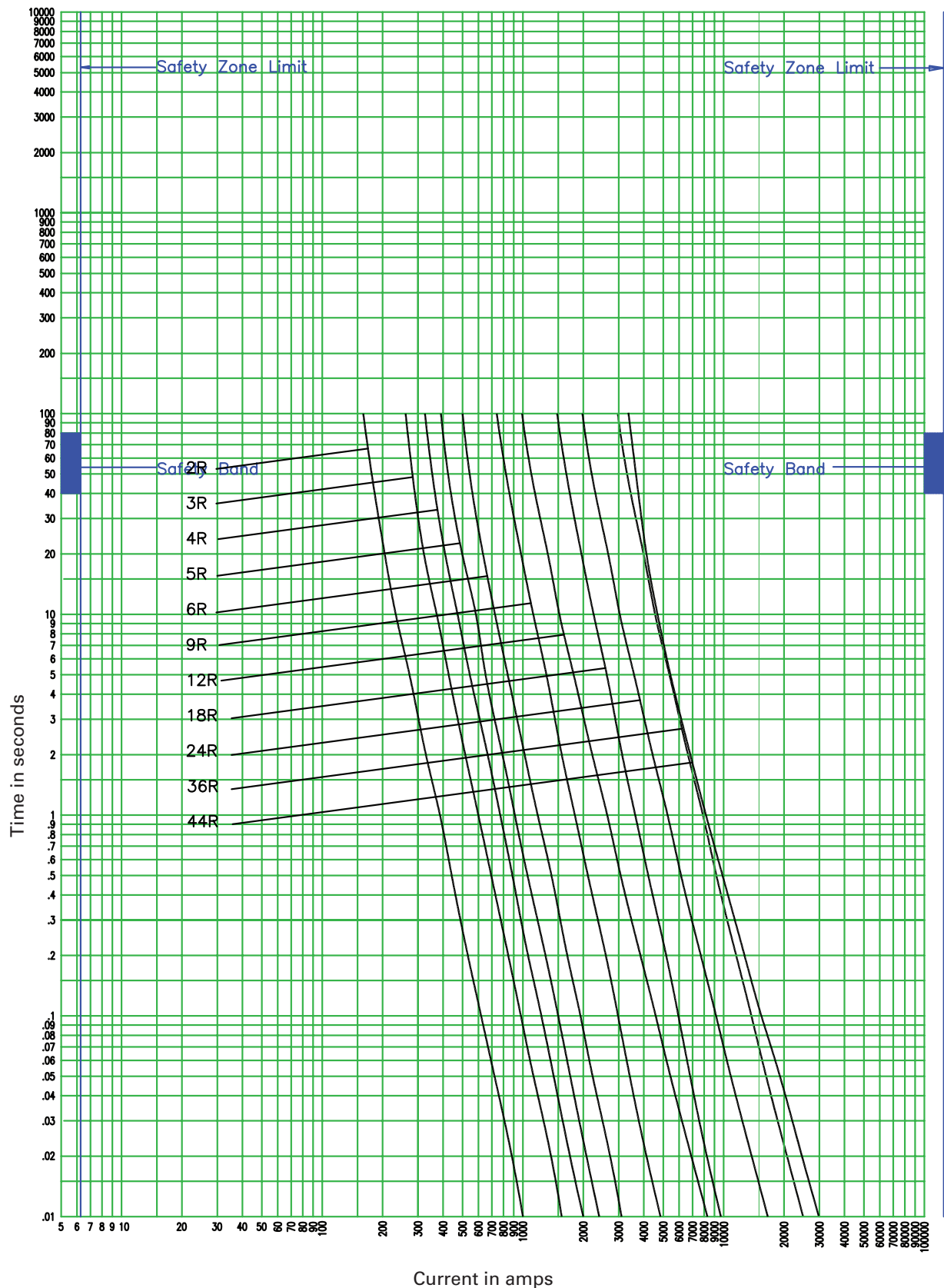


7.2kV non-disconnect mounting



† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

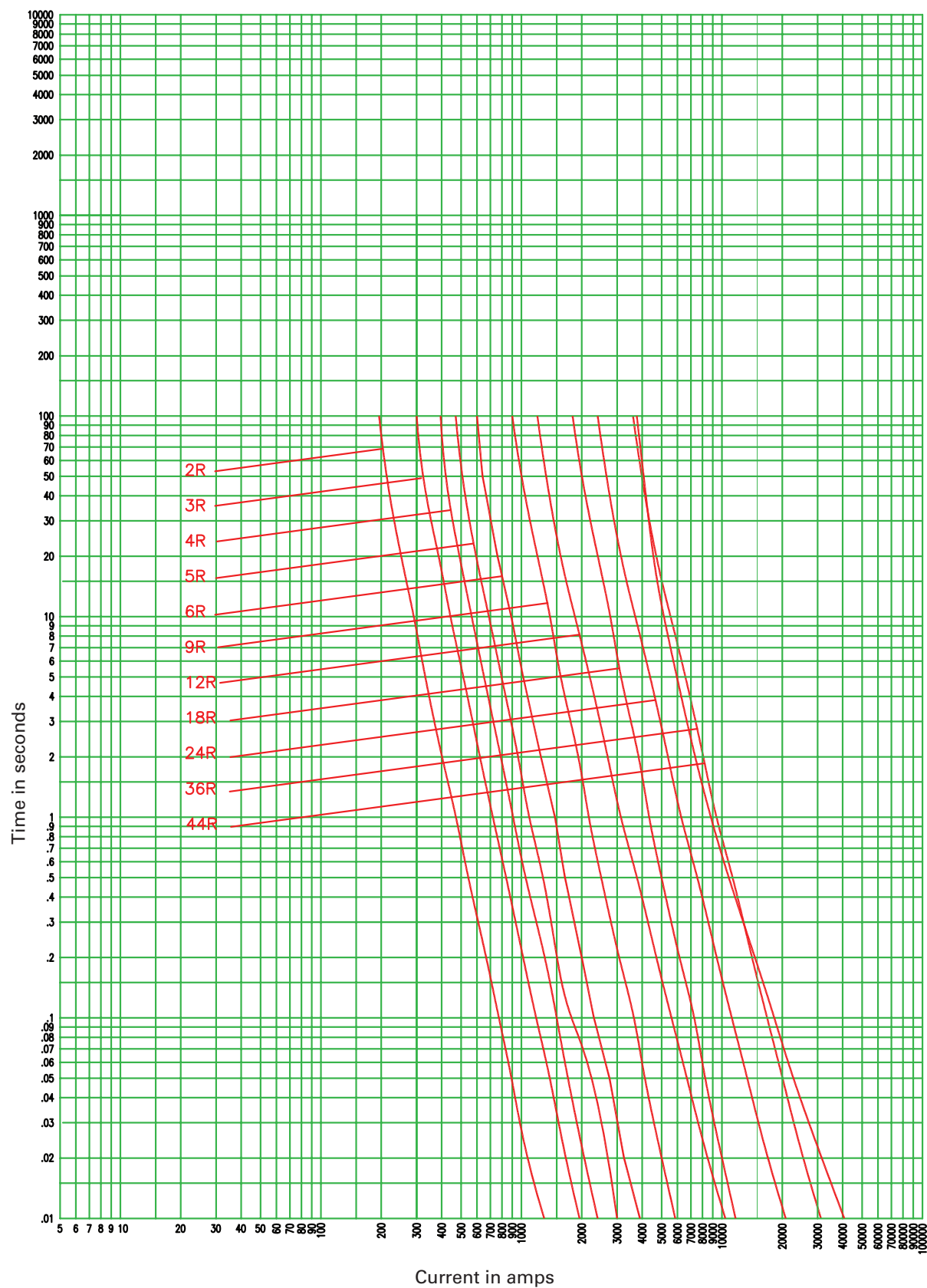
7.2kV time-current curves — minimum melting for 8CLS- R, 7CLS- R, 8ACLS- R, 7ACLS- R and 7BCLS- R (2R-44R @ 25C)



8CLS- R, 7CLS- R, 8ACLS- R, 7ACLS- R and 7BCLS- R

CURVE TC66700602  
December 2008

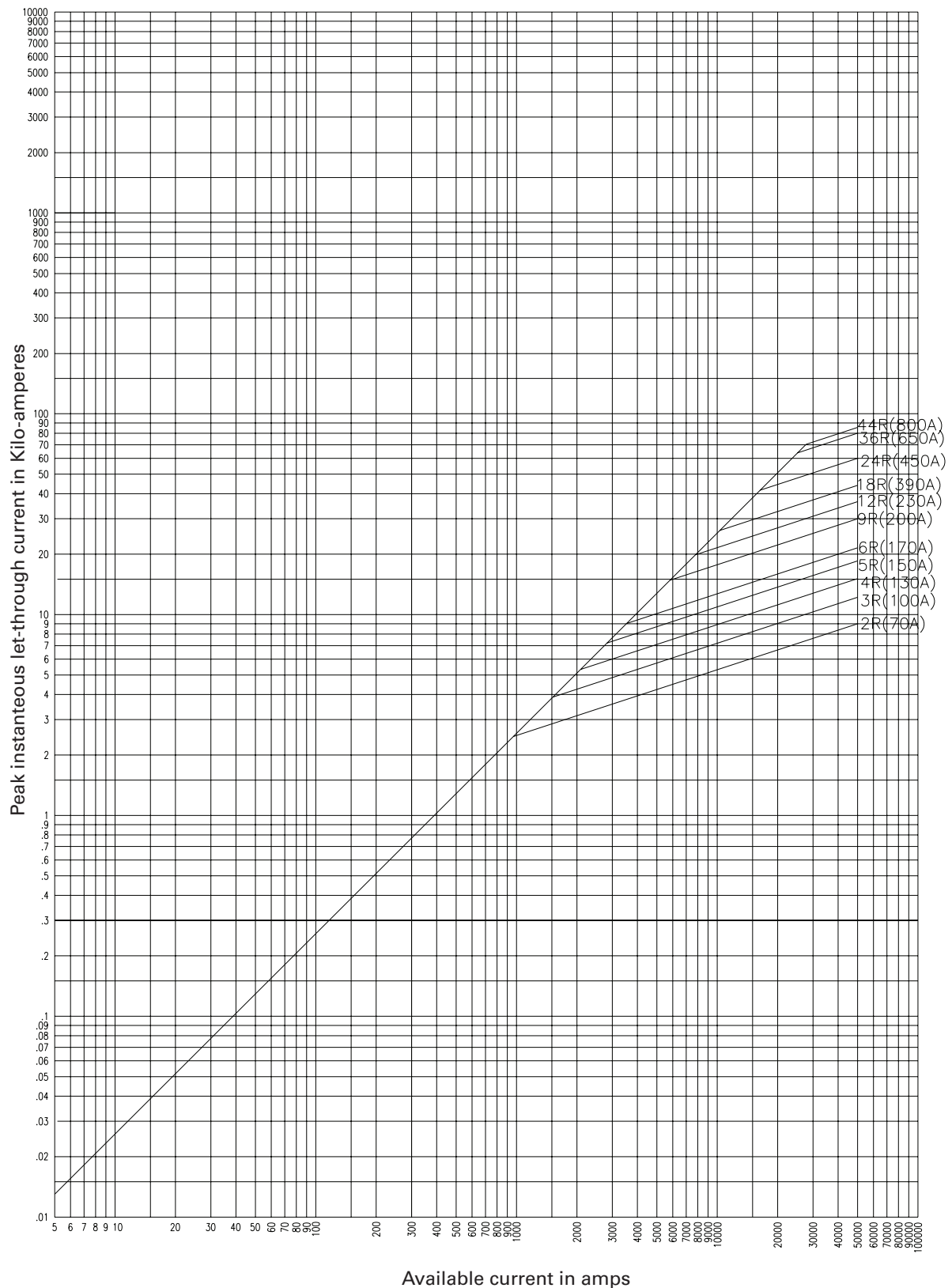
7.2kV time-current curves — total clearing for 8CLS-<sub>R</sub>, 7CLS-<sub>R</sub>, 8ACLS-<sub>R</sub>, 7ACLS-<sub>R</sub> and 7BCLS-<sub>R</sub> (2R-44R @ 25C)



8CLS-<sub>R</sub>, 7CLS-<sub>R</sub>, 8ACLS-<sub>R</sub>, 7ACLS-<sub>R</sub> and 7BCLS-<sub>R</sub>

CURVE TC66700702  
December 2008

7.2kV peak let-through curves for 8CLS-\_R, 7CLS-\_R, 8ACLS-\_R, 7ACLS-\_R and 7BCLS-\_R (2R-44R @ 25C)



8CLS-\_R, 7CLS-\_R, 8ACLS-\_R, 7ACLS-\_R and 7BCLS-\_R

CURVE 66700205  
January 2001  
Reference # 639315  
667002, 667008

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